

**GUIDELINES FOR DYNAMIC ENVIRONMENTAL CRITERIA:  
AN INVITATION TO PARTICIPATE IN THEIR DEVELOPMENT**

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The development of guidelines for dynamic design and test criteria has recently been initiated under the sponsorship of the Office of Safety and Mission Quality, NASA Headquarters. To ensure that all current methods

Much of this advancement was made possible through improvements in electronics, especially in the form of inexpensive and more accessible desk and lap top computers, and better testing and instrumentation systems. Also, much better knowledge was gained on the limitations of various dynamic techniques. Therefore, it seemed appropriate to prepare a new state-of-the-art survey of space vehicle dynamics. The obvious goal of these new guidelines is to provide a single source of information and references for a new generation of dynamicists, and for managers, project engineers and non-dynamics personnel when new dynamics problems are encountered. A brief outline and schedule of activities for the preparation of this document are shown in Figure 1.

To initiate the voluntary participation in the development of these guidelines, each participant or organization is requested to respond to one or more of four questionnaires on the following topics:

- I. Acoustic and Aerodynamic Noise
- II. High Frequency Random Vibration
- III. High Frequency Transients and Pyroshocks
- IV. Low Frequency Loads and Environments

These questionnaires are designed to be respondent-friendly, i.e., the respondent(s) is asked to check-mark the right hand side if there is agreement with a question or statement. Sometimes, a brief explanation, clarification, or detail is requested. If you or your organization wish to participate in this endeavor, please fill out and return the enclosed distribution form.

#### REFERENCES

1. Barnoski, R. L., Piersol, A. G., Van der Laan, W. F., White, P. H., and Winter, E. F. Apr. 1969. "Summary of Random Vibration Prediction Procedures," NASA CR-1302 [MSFC-sponsored].
2. Himelblau, H., Fuller, C. M. and Scharon, T. D. July 1970. "Assessment of Space Vehicle Aeroacoustic Noise-Induced Vibration Prediction, Design, Analysis and Testing," NASA CR-1596 [LaRC-sponsored].
3. Kacena, W. J., McGrath, M. B. and Rader, W. P. Mar. 7, 1970. "Aerospace Systems Pyrotechnic Shock Data," Martin-Marietta Rep. MCR-69-611 [GSFC-sponsored].
4. Eldred, K. M. June 1971. "Acoustic Loads Generated by the Propulsion System," NASA SP-8072 [LaRC-sponsored].

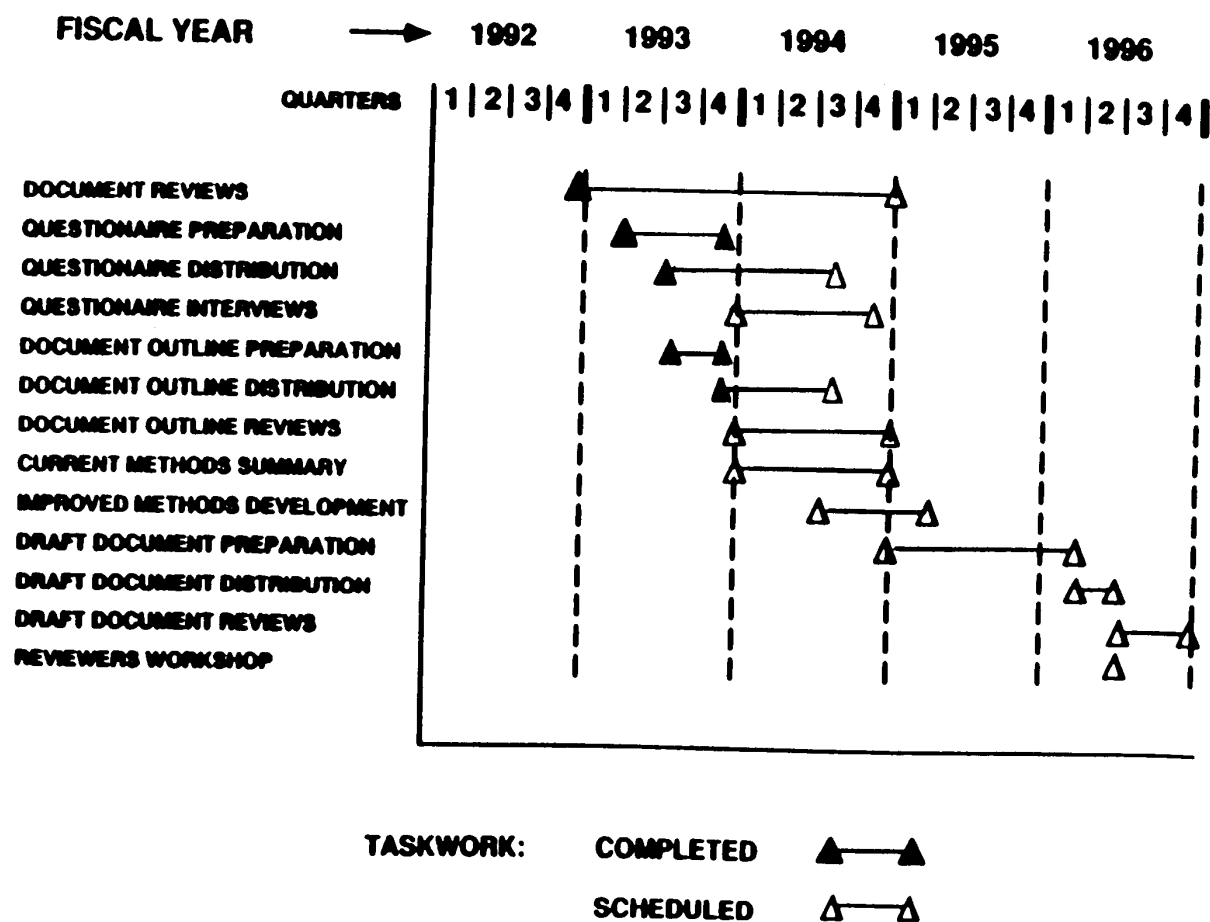


Figure 1. Outline and Schedule for Dynamic Environmental Criteria Guidelines

# DYNAMIC CRITERIA QUESTIONNAIRE DISTRIBUTION FORM

Recommended by: \_\_\_\_\_

Name(s), Organization, Address, Phone & FAX Numbers (if known)	Questionnaire No.*			
	I	II	III	IV

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- \*I. Acoustic and Aerodynamic Noise
- II. High Frequency Random Vibration
- III. High Frequency Transients on Pyroshocks
- IV. Low Frequency Loads and Environments